

# Definitions & Perspectives on Project Management

## Module 1



NAVAL  
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# Agenda

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- Last time
  - Admin and orientation
- This time
  - Project Management
  - PM versus SE
  - Roles
  - 4 T's
- Next time

# Admin

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- ☐ SI3400 DAU equivalency
  - SYS302
  - <http://icatalog.dau.mil/appg.aspx>
    - ☐ Select DoD Schools
  - Your responsibility to apply for equivalency
- ☐ Project Teams

# Schedule

Module	Begin Date	Class Date	Topic	Reading	Graded Event	Due Date	Points
0	23-Mar-15		Course Overview	Syllabus	Student Introductions		
1	30-Mar-15	31-Mar-15	Project Management Defined	Kerzner, Ch 1 & 2 & 5	Discussion Forum	6-Apr	5
					Assignment	6-Apr	5
2	06-Apr-15	07-Apr-15	Project Planning	Kerzner, Ch 11	Project WBS draft	12-Apr	10
3	13-Apr-15	14-Apr-15	Organizational Structures	Kerzner, Ch 3 & 4	Project Org Chart	19-Apr	10
4	20-Apr-15	21-Apr-15	Project Scheduling	Kerzner, Ch 12	Project Schedule	26-Apr	10
5	27-Apr-15		In progress review (IPR)		Team IPR	3-May	20
	04-May-15				IPR Discussion Forum	10-May	10
					Team Peer Assessments	10-May	
6	11-May-15	12-May-15	Pricing and Estimation	Kerzner, Ch 14	Quiz 1	17-May	10
7	18-May-15	19-May-15	Budget and Cost Controls	Kerzner, Ch 15	Discussion Forum	24-May	10
8	25-May-15	26-May-15	Risk Management	Kerzner, Ch 17	Project Budget, Cost and Risk	31-May	10
9	01-Jun-15	02-Jun-15	Configuration Management	Handouts	Quiz 2	7-Jun	10
10	08-Jun-15	09-Jun-15	Contracts Procurements	Kerzner, Ch 19	Project Configuration and Contract	14-Jun	10
Finals	12-Jun-15		Last NPS Class		All previous individual assignments	14-Jun	
					Team SEMP	19-Jun	30
					Team Peer Assessments	19-Jun	
							<b>150</b>

# Last Time: Overview

## Agenda

- ☐ Instructor Intro
- ☐ Course Overview
  - Topics
  - Calendar
- ☐ Graded Events
  - Discussion Boards
  - Assignments
  - Project
  - Examinations
- ☐ Administration
  - Office hours
  - Text books
- ☐ Course Project Overview
- ☐ Sakai

## Goals for SI3400

- ☐ Introduce you to the basics of project management including:
  - Organization & team-building
  - Planning & scheduling
  - Measuring & control
  - Leadership
- ☐ Learn keys to success
  - Risk Management
  - Configuration Management
  - Requirements Management
  - Stakeholder relationships
- ☐ Practice in a controlled environment
  - Learn from others' successes and failures

Apply these concepts in managing a project.

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					Team Peer Assessments	19-Jun	
							150

## Draft Teams

Name	Cohort	Rank	Designator	Location	
<b>Team A</b>					
Leeson, Joshua A	311-1430	Civilian, U.S.A.	-	San Diego, CA	pacific time
Kap, Nathan J	275-182	LT, USN, U.S.A.	3510	San Diego	pacific time
Rodriguez, Philippe I	263-344	Capt, USMC, U.S.A.	802	San Diego, CA	pacific time
Studenmeider, Michael J	311-1430	Civilian, U.S.A.	-	San Diego, CA	pacific time
Valeros, Victor M	311-1430	Civilian, U.S.A.	-	San Diego, CA	pacific time
Wasson, William C	311-1430	Civilian, U.S.A.	-	San Diego, CA	pacific time
<b>Team B</b>					
Belavin, Francis C	263-344	Capt, USMC, U.S.A.	3510	Camp Pendleton, California	pacific time
Campbell, Thomas	311-1430	Civilian, U.S.A.	-	Spokane, WA	pacific time
Dick, Michael H	311-1430	LT, USN, U.S.A.	3510	WA	pacific time
Lesour, Kendrick	311-1430	Civilian, U.S.A.	-	Spokane, WA	pacific time
Sherris, Douglas S	263-344	Maj, USMC, U.S.A.	7525	Japan	
<b>Team C</b>					
Debus, Michael H	311-1430	Civilian, U.S.A.	-	Newport, Rhode Island	eastern
Nichols, Keith T	311-1430	Civilian, U.S.A.	-	Warren, MI	eastern
Nichols, Herbert J	311-1430	Civilian, U.S.A.	-	Newport, Rhode Island	eastern
Sayer, Min-Hao S	263-182	ENS, USN, U.S.A.	3210	Bease Creek, SC	eastern
Storlen, Shelby	263-182	CAPT, USN, U.S.A.	3510	Chenilly, VA	eastern
<b>Team D</b>					
David, Michael A	263-344	Maj, USMC, U.S.A.	7527	Quantico	eastern
Kap, Joshua N	263-344	Capt, USMC, U.S.A.	802	Quantico	eastern
Proctor, Jonathan S	311-1430	Civilian, U.S.A.	-	Newport, Rhode Island	eastern
Sedock, Keith H	311-1430	Civilian, U.S.A.	-	Newport, Rhode Island	eastern
Williams, Carlos M	311-1430	Civilian, U.S.A.	-	Newport, Rhode Island	eastern
<b>Team E</b>					
Formby, Dec D	311-1430	Civilian, U.S.A.	-	Huntsville, Alabama	central time
Udell, Renya T	311-1430	Civilian, U.S.A.	-	Huntsville, Alabama	central time
Padley, Christina A	311-1430	Civilian, U.S.A.	-	Redstone Arsenal	central time
Shemas, James J	311-1430	Civilian, U.S.A.	-	Corpus Christi, TX	central time

# Review 1

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- This quarter in SI3400 (select one):
  - a. The course will cover in great detail many topics
  - b. The course will cover in great detail only scheduling and controlling
  - c. The course will cover fundamentals of engineering project management
  - d. The course will cover only DoD specific project management topics

# Review 2

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- This class requires (select one):
  - a. Attending 3 hours lecture/week
  - b. Conducting 2 hours lab/week
  - c. No homework, only a final class project
  - d. No exams, just a final project report
  - e. other

# Review 3

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- ❑ When submitting assignments you must (select one):
  - a. Write all your answers in the window provided in the assignments area
  - b. Write a note to the instructor in the window provided the assignments area
  - c. Submit via email
  - d. Submit in Sakai assignments area as a document or pdf



# This Time:

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- ☐ Project Management
- ☐ PM versus SE
- ☐ Roles
- ☐ 4 T's

# Objectives

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- ❑ Define the terms "project" and "project management."
- ❑ Define the "Four T's" of a project
- ❑ Differentiate between the roles of a line manager and a project manager.
- ❑ Analyze the functions of project management.
- ❑ List and define the top reasons for project failure.
- ❑ Describe the attributes of a good project manager

# Reading

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- ❑ Kerzner, Sections 1.0-1.6, 1.14, and 1.19
- ❑ Kerzner, Sections 2.0, 2.6, 2.7, and 2.10-2.13
- ❑ Kerzner, Chapter 5 (skip Sections 5.4, 5.7-14, and 5.19-5.26)

# Graded Event Assignment

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## □ Individual Assignment

- Perform a functional analysis (decomposition) of 'to manage' (more specifically, 'Manage a Project') which should include a very thorough decomposition. You can use what ever tool you would like to include paper and pencil then scan into submit. Ensure you number your functions and go down 3 levels (F0, F1, F1.1)
- The point is to get to a functional decomposition with which you feel comfortable and your logic and structure for functions is sound. Submit via the Assignments tab.

# Graded Event Discussion

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## ☐ **Discussion Forum**

- Answer question 1.16 in Kerzner.
- Make sure you address the questions asked in the instructions. Ensure that you post your original thought answers, then review and comment on at least 2 other students posts.
  
- Explain how the following statement can have a bearing on who is ultimately selected as part of the project team:
- “There comes a time in the life-cycle of all projects when one must shoot the design engineers and begin production.”
  - ☐ Who would say this?
  - ☐ What are the impacts if it happens?
  - ☐ Who would be on the team?

# What is a Project?

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# What is a Project?

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- A **project** is a temporary process, which has a clearly defined beginning and end time, a set of tasks, and a budget, that are developed and managed to solve a defined goal or objective.

## **Key Points:**

- 1. Temporary effort**
- 2. Constrained time schedule**
- 3. Constrained cost budget**
- 4. Defined goal**

# What is Project Management?

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# What is Project Management?

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- ❑ Directing the activities associated with executing a project while controlling limited resources
- ❑ Good Project Managers do this efficiently and effectively to help achieve a successful conclusion (in conjunction with the systems engineer)

# What is Success?

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- ☐ Project success
- ☐ Deliverable success

# Project Failure

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- ☐ Perceived failure
- ☐ Actual failure
- ☐ Planning failure

# Who's Who?

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☐ The Systems Engineer

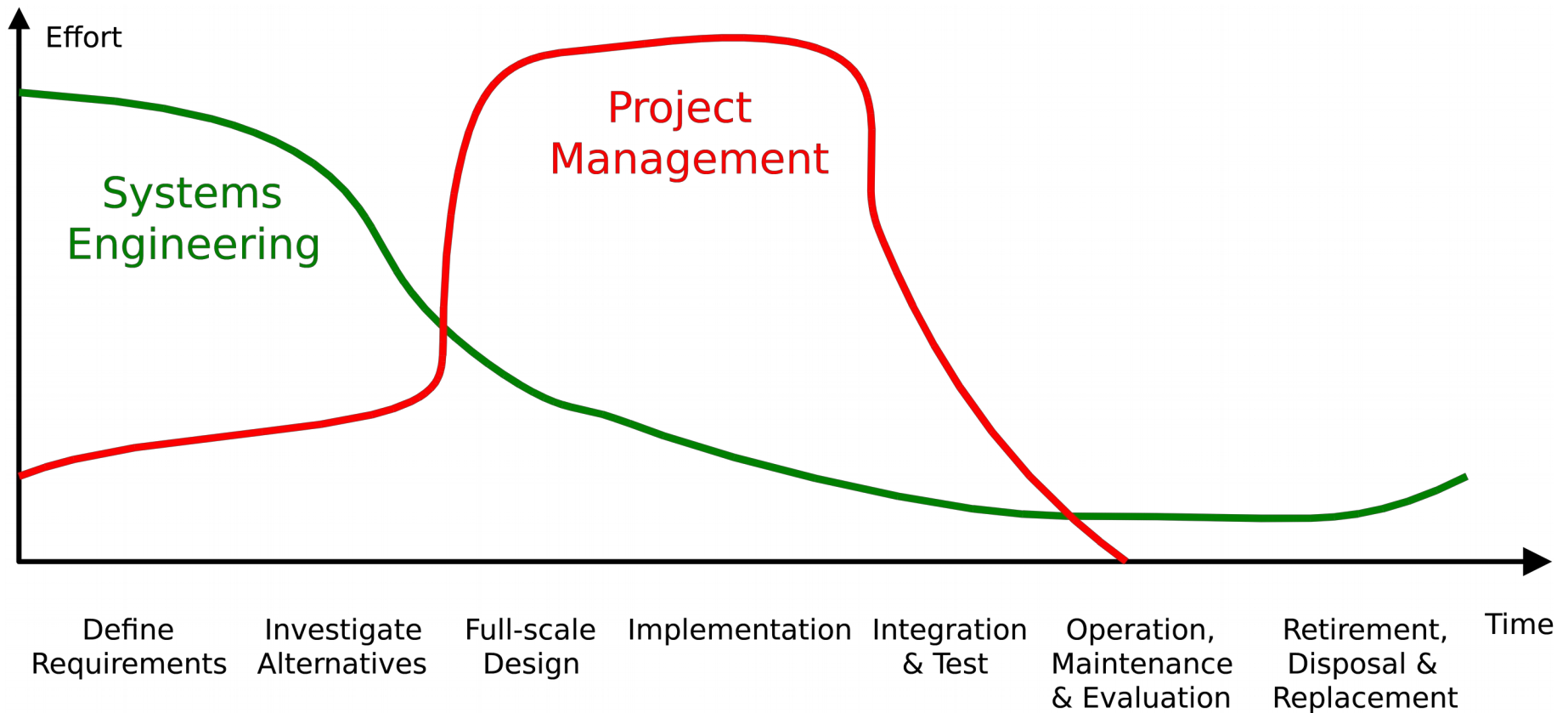
☐ The Project Manager

# Who's Who?

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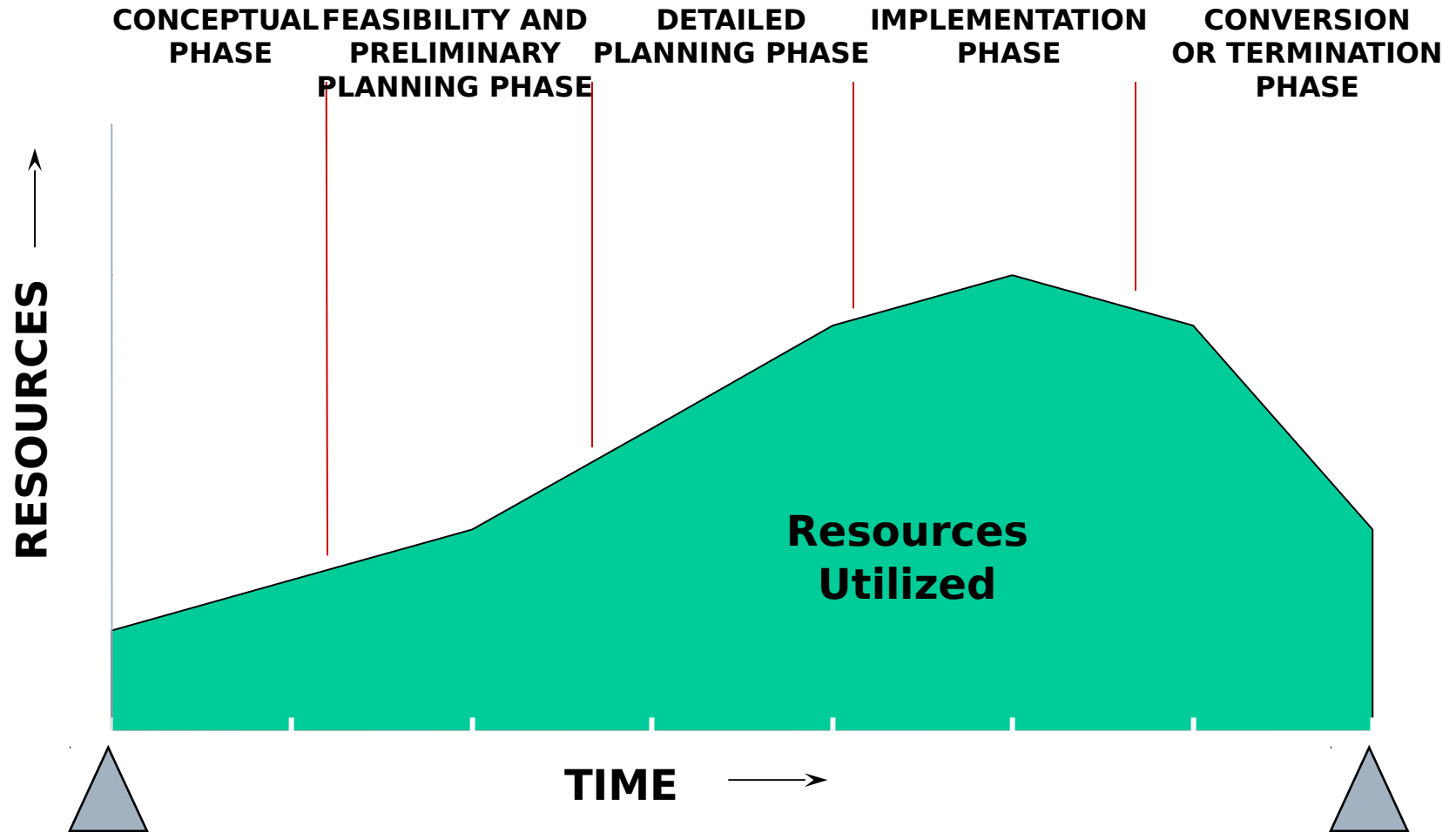
- The Systems Engineer is the person who provides the right solution to the right problem within limits of time and money. The essence of Systems Engineering is to know where you are going and generate the correct set of requirements that must be satisfied
- The Project Manager guides the Systems Engineer within the context of the organization and external constraints

# Systems engineering and project management workloads change during the system lifecycle



# Project Lifecycle

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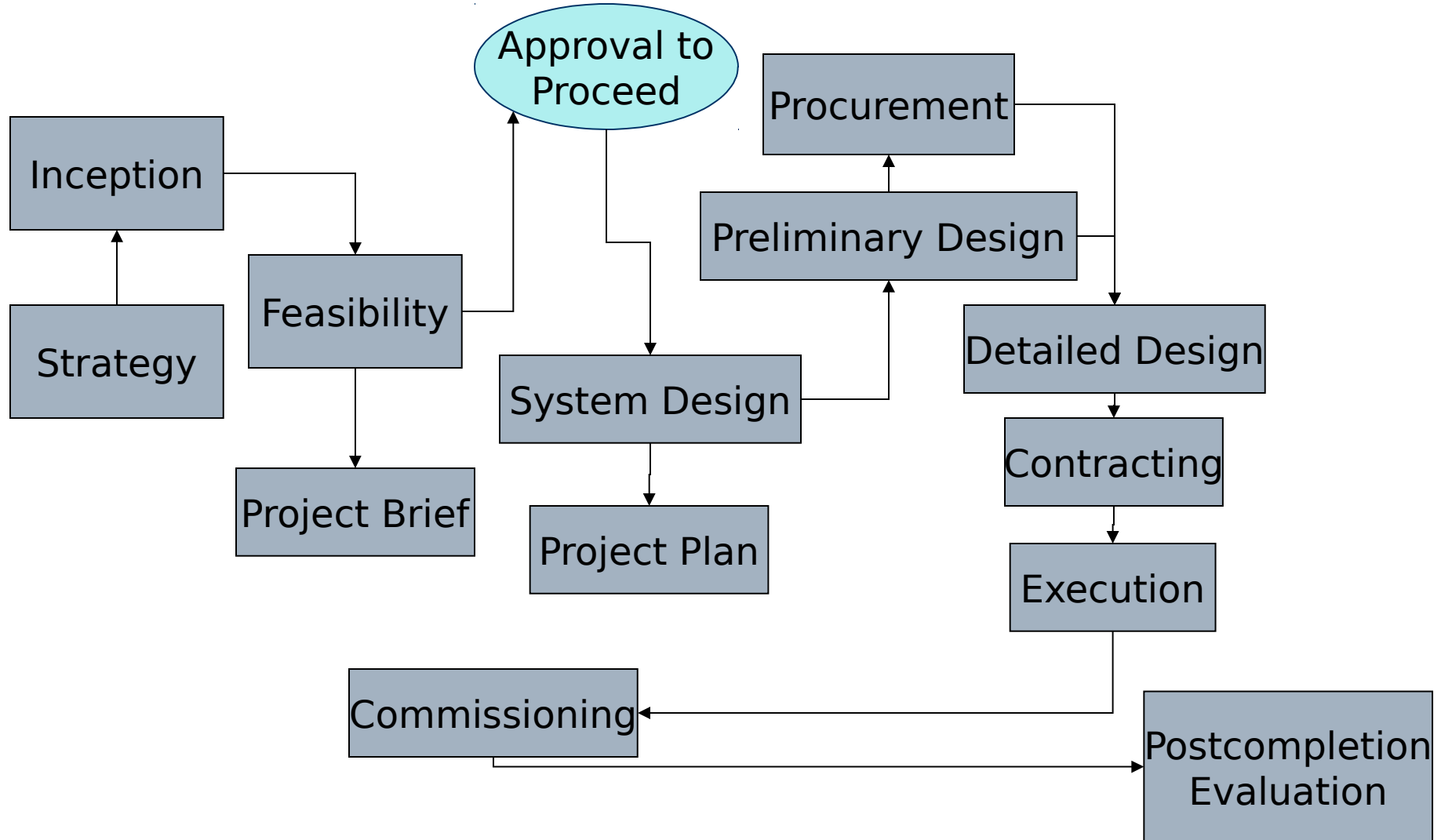


Kerzner Figure 2.1

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# Project Lifecycle Relates the Project to Reality

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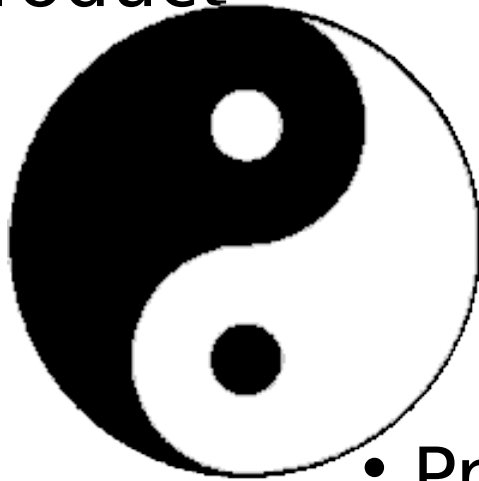




# The synergistic roles of systems engineering and project management

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- Systems engineering delivers the product



- Project management delivers the project

# Creating a New Product

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## **Systems Engineering**

Creates the product  
Doing the right things  
    What is it for?  
    Who is it for?  
Alternative concepts  
    Buy, build or lease  
    Total life cycle cost  
Get customer feedback  
    Create plans

## **Project Management**

Creates the process  
Doing things right  
How is it valued  
How to build  
When to build  
Where to build  
Cost to build  
Get feedback  
Build to plans

# Who's Who?

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- The Systems Engineer
  - Determines and manages for requirements
  - Forecasts emergent properties
  - Specifies work
- The Project Manager
  - Determines and manages for project success
  - Forecasts project resources
  - Specifies limitations and conditions

# Who's Who Examined

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## Systems Engineer

## Project Manager

<input type="checkbox"/> What	<input type="checkbox"/> Should be done;	<input type="checkbox"/> Will be done;
<input type="checkbox"/> When	needs to be done	must be done
<input type="checkbox"/> Where	<input type="checkbox"/> Integration event	<input type="checkbox"/> Milestone,
<input type="checkbox"/> Why	driven	review driven
	<input type="checkbox"/> Individual focus	<input type="checkbox"/> Project focus
	<input type="checkbox"/> Stakeholder need;	<input type="checkbox"/> Revenue, profit,
	system capability	problem/solution
<input type="checkbox"/> How	<input type="checkbox"/> Allocation of	<input type="checkbox"/> Limitations of
	resources	resources

# Project Management is NOT...

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- ❑ The process of accomplishing a task on time, in budget, and to technical specifications. (That's the job of the Systems Engineer)
- ❑ Unfortunately for many people, project management is still a set of tools, techniques, and activities that are applied regardless of where one is in the project lifecycle. This parochial view mirrors the notions of contract administration and task management

# Too Many People See Project Management as Down-Stream Work

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- ❑ Manage projects as entities, beginning at the onset of the project idea
- ❑ Always focus on the project
- ❑ Managing change and transition
- ❑ Engineering Project Management driven by value
- ❑ It is about meeting and exceeding customer expectations; about getting the best bang for the buck, creating value, and shortening the time to completion

**90% of the outcome is defined in the first 10% of the project**

# Project Manager Roles

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- The Project Manager – responsible for coordinating and integrating activities across multiple, functional organizational lines.
  - Provide overall project direction to Team
  - Maintain adequate records and report periodically
    - Intellectual property
    - Personnel issues
  - Develop objectives, plans
  - Coordinate activities with other groups
  - Direct subordinates in execution of assigned Tasks
    - Ensure their approach meets objectives
    - Attain satisfactory performance and quality consistent with established policies and procedures
  - Confer with and assist Team on day-to-day basis
  - Directs the carrying out of regulations and laws
  - Prepares and makes presentations

# Project Manager has to know

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- ❑ What Can Go Wrong *WILL* Go Wrong
  - What can go wrong with the project?
  - How likely is it to go wrong?
  - What would be the consequences if something does go wrong?
  - What can be done to prevent things from going wrong?
  - What can be done to reduce the probability or severity of the consequences if something goes wrong?
  - How soon does something need to be done?



# Role of Project Management in Project Definition

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- Integration is one of the most basic functions of Engineering Project Management. It brings together the skills required to ensure that the activities are accomplished as expected
- Integrating marketing, design, production, ... in defining a project cannot logically be queried

**Fundamental to Engineering Project Management *IS*  
*PLANNING. Period***

# Three Most Important Aims of Engineering Project Management

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- Project definition and development
  - Manage development of options, identify and manage risk, integrate the interplay of engineering with design, finance and commercial, health, safety and environmental, schedule and phasing, and organizational matters
- Project implementation and execution
  - Design and create an effective project organization; deliver effective projects; create conditions for competency, knowledge, and experience; provide information needed to empower people and systems. WHY? to manage effectively by evaluating, reviewing and benchmarking progress
- Commissioning, testing, and start-up
  - Grant authority to undertake certain activities; assure that all is correct; AND support the user

# Difference between Project Sponsor and Project Manager

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- ❑ Understanding the difference between a project manager and a project sponsor helps sort out the proper relation between project management and operations
- ❑ Projects need owners. Owners have two kinds of project roles: someone responsible for the “business” case (project sponsor) and an engineering project manager for delivering the best product that satisfies requirements within “business” case boundaries

# Project Sponsor is the Project Manager's Boss

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- ❑ Sponsor approves changes in the project plan (submitted by the project manager)
- ❑ Sponsor integrates the needs and wishes of operations and users into the project management process. Problems develop when operations requests changes late in the project lifecycle resulting in over-engineering or delays

# Integrating User Needs is Challenging

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- Users' needs are represented, or managed, in different ways in different project industries. Often, the marketing function best reflects these user needs
- Integrating the needs of operations and users into the project is one of the most important duties of the Project Sponsor (and one of the least well done)

# Project Sponsor Has Primary Responsibility to Ensure Project Priority

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## ☐ General Processes

- Articulate program requirements
- Ensure that the executive requirements are met

## ☐ Concept Definition

- Define sponsor needs
- Ensure user support of project

## ☐ Planning

- Review and approve project plan
- Participate in planning
- Approve funding for project

# Project Sponsor Has Primary Responsibility to Ensure Project Priority

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- ❑ Project Start-Up
  - May assign personnel through the Project Manager
  - Attend Kick-off meeting
- ❑ Project Execution
  - Attend requirements reviews
  - Agree to requirements
  - Attend coordination meetings
  - Be a resource to help resolve project problems
- ❑ Close-Out
  - Attend lessons learned session

# Project Manager Has Primary Responsibility for Overall Project

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## □ General Processes

- Implement project policies and procedures
- Acquire resources
- Assure staff technical proficiency
- Establish and maintain project Value
- Provide tools

## □ Concept Definition

- Develop project statement (including success criteria, constraints, and failure modes)
- Conduct cost-benefit analysis



# Project Manager Has Primary Responsibility for:

- Planning
  - Detail project plan
  - Obtain commitments
- Project Start-Up
  - Baseline the project plan
  - Assign resources and work packages
- Project Execution
  - Regularly review project status (actual versus planned)
  - Maintain an updated and approved project plan
  - Participate in change control board
  - Update project risks and mitigate risks

# Project Manager Has Primary Responsibility for:

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## ☐ Close-Out

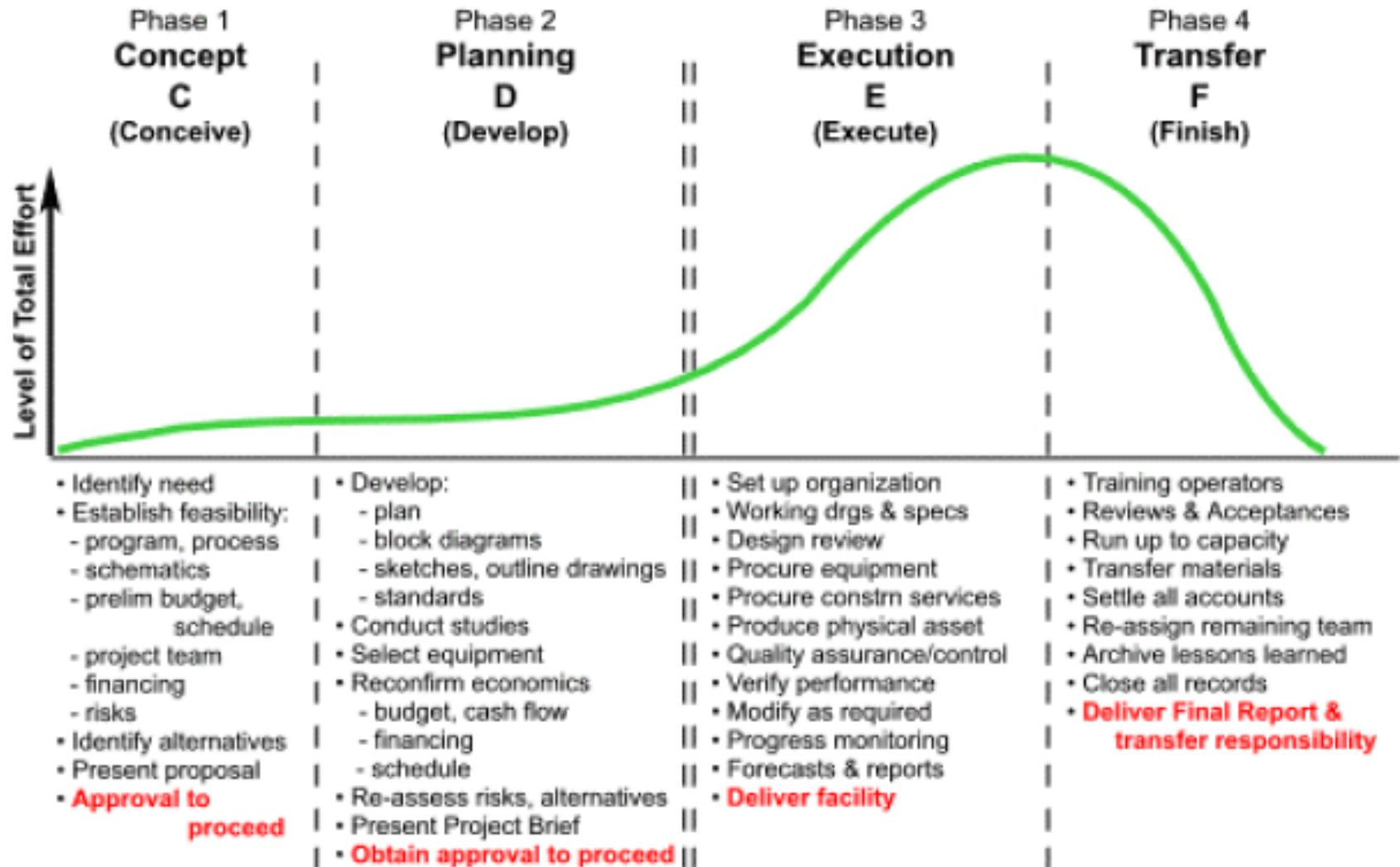
- Develop action plan to resolve problems
- Obtain approvals for tested and final deliverables
- Assist in contract close-out
- Communicate lessons learned to staff
- Assist in reassigning staff
- Celebrate project success

# Project Management Phases

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- ☐ Concept Phase and Definition
- ☐ Project Planning
- ☐ Project Execution
  - Tracking
  - Review
  - Risk management
- ☐ Project Close-Out (or Transition)

# Managing the Project Environment



# Concept Phase

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- ☐ What is to be done?
- ☐ Why is it to be done?
- ☐ How will it be done?
- ☐ “Business” Case
  - Intellectual Property Plan
  - Budget, Revenue, and Profit Plan
  - Competitive Analysis Plan
  - Gap Analysis
  - Lifecycle of Need, Lifecycle of solution

# Project Statement Defines Actions

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- Project's charter and objectives
  - Statement of the problem
  - Statement of the need
- Consistency with overall business plan
- Outlines high-level approach
- Discusses project success factors
- Discusses project failure factors
- Top-level strategic issues

**Answers the question: Should this project be supported?**

# The Heart of Project Management is Action

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- Action, as opposed to decisions or discussions, is the prime requirement for project management
- Accomplishments are most often measured in terms of action, not talking
- Projects are often defined as a specific area of action that is different from other projects



# Projects Defined by Four T's

Task definition

Time limits

Team

Transition

These four T's demark action; boundaries of the project relative to other projects. They are used to implement project plans when filled with processes and actions



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# The Task is The Goal, The Reason for the Project

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- ❑ Defining the project is the most fundamental part of a project. This is equivalent to an organization's goal structure. This means you understand and gain agreement on objectives, scope, risk, approach, timeframe, and budget
- ❑ Task is used to allocate resources to the project
- ❑ Task gives the activity an identity
- ❑ Task gives the basic reason for action and hints on how to organize action
- ❑ Task can also hint about methods to achieve goal

## Time -Often Most Undervalued Resource, Often the Key Constraint for the Project

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- ❑ Task must be defined so that it can be achieved within a limited and predetermined time period
- ❑ Extending deadlines longer than is determined by risk analysis defocuses attention on action
- ❑ By definition, Task must have a definite termination point when it is to have been accomplished. Then evaluate progress/results
- ❑ Time schedules help control and limit costs

# Causes of Poor Time Management

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- ❑ Poor Time Management is often a symptom of over confidence – techniques which worked on previous or smaller projects. But ... inefficiencies which were insignificant in the small role are ludicrous in the large
- ❑ The reason Time Management is poorly practiced is that it is rarely a measured part of appraisal and performance review

# Team -The Most Decisive Resource, The Key Driver for the Project

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- ❑ Team is made of people with different and complementary competencies
- ❑ Effective Teams have defined roles responsibilities for each member
- ❑ Team personifies the project – selection is an honor, participation is enjoyable
- ❑ Team members pressure each other to deliver what is due
- ❑ Team is configured with respect to Task, but Team impacts meaning of Task



# Transition -The Most Decisive Resource, The Inevitable Result of the Project

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- ❑ Transition means that some changes are made or some achievements are accomplished that make a difference to the world outside the project
- ❑ Transition is related to the task, yet it differs in that it also concerns the progression toward task completion
- ❑ Transition might be regarded not only as a key result of project work, but more important as the path leading to Task fulfillment

# Implications of 4T Framework for Conception and Termination

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- The Project Manager's role can be described under four general categories concerning pre- or post-project matters
- Pre-project activities focus on creation of a project and allocation of resources to it. This is conceptualization.
  - Much of the momentum for the project is created very early in the process.
  - New project needs to be decoupled from its environment in the parent organization

# Implications of 4T Framework for Conception and Termination

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- Pre-project – Conceptualization is more about gaining support for the project and mobilizing and motivating potential Team
  - Expectations about project outcomes are formed
  - Conceptualizations may not provide practical methods
  - Broader agenda than during implementation
  - Motivation and commitment are high
- Post-project – focus on terminating a project. The principle activities include lessons learned; storing of knowledge for future use; re/decoupling resources (personnel & materials)

# Implications of 4T Framework for Conception and Termination

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- Post-project – focus on terminating a project. The principle activities include lessons learned; storing of knowledge for future use; re/decoupling resources (personnel & materials). Decoupling is key
  - The project becomes real for others and receives its identity.
  - Project Manager must know value
  - Consent from upper management is required



# What Makes A Great Project Manager

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- ❑ **Planner** - Manager takes long-term view, greater responsibility means further into future. Team members work towards established goals, Manager validates these goals are selected wisely. Manager selects optimal plan and Team implements it
- ❑ **Provider** - Manager has access to information and materials which Team needs. Manager has authority or influence to acquire things which Team cannot
- ❑ **Protector** - Team protects Team from whims of less enlightened managers. Manager protects Team from short-term excitements. Manager responsible for costing/scheduling Task to avoid impossible deadline

# What Makes A Great Project Manager

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- **Vision:** Future must be seen and communicated
- **Environment:** Create a supportive workplace by taking action – provide training, support people, reinforce process, inspire self-determinism
- **Maturity:** Supervise maturity to foster delegation, encourage persistence, attention to details, honesty, flexibility, integrity, ...

# What Makes A Great Project Manager

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- ❑ **Verve:** Manager provides the positive enthusiasm, the shameless audacity, to do Task with confidence and pride; to characterize preferred behavior; to consciously inspire cohesiveness; to set the example behaviors
- ❑ **Credibility:** To know your stuff! Discover your beliefs, values, and competencies. Develop self-confidence. Appreciate the diversity of talents. Define shared values that become part of code of conduct

A great manager makes work rewarding

# Review 1

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According to Kerzner, which of the following is a potential benefit of using project management?

- a. Maximization of continuous reporting
- b. No need for identification of functional responsibilities
- c. Identification of time limits for scheduling
- d. No need for a project management methodology

# Review 2

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According to Kerzner, which of the following is *directly* controlled by the project manager?

- a. Money
- b. Manpower
- c. Information / technology
- d. None of the above

# Review 3

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According to Kerzner, the major difference between projects and programs is usually:

- a. Cost
- b. Time
- c. Technology requirements
- d. Quality requirements

# Review 4

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According to Kerzner, which of the following is *not* a major benefit of using life cycle phases?

- a. Providing structure to project management
- b. Easier task of selecting the project manager
- c. Standardizing planning, scheduling and control
- d. Structured decision-making

# Review 5

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According to Kerzner, which one of the following is *not* one of the three steps of controlling?

- a. Monitoring
- b. Evaluating
- c. Authorizing
- d. Correcting



# Review 6

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According to Kerzner, the document that is prepared at the beginning of a project in order to clarify the roles and responsibilities of the team members is called a:

- a. Responsibility clarification table
- b. Responsibility identification table
- c. Responsibility assignment matrix
- d. Work package assignment sheet

# Summary

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- Last time
  - Admin and orientation
- This time
  - Project Management
  - PM versus SE
  - Roles
  - 4 T's
- Next time

# Next Time

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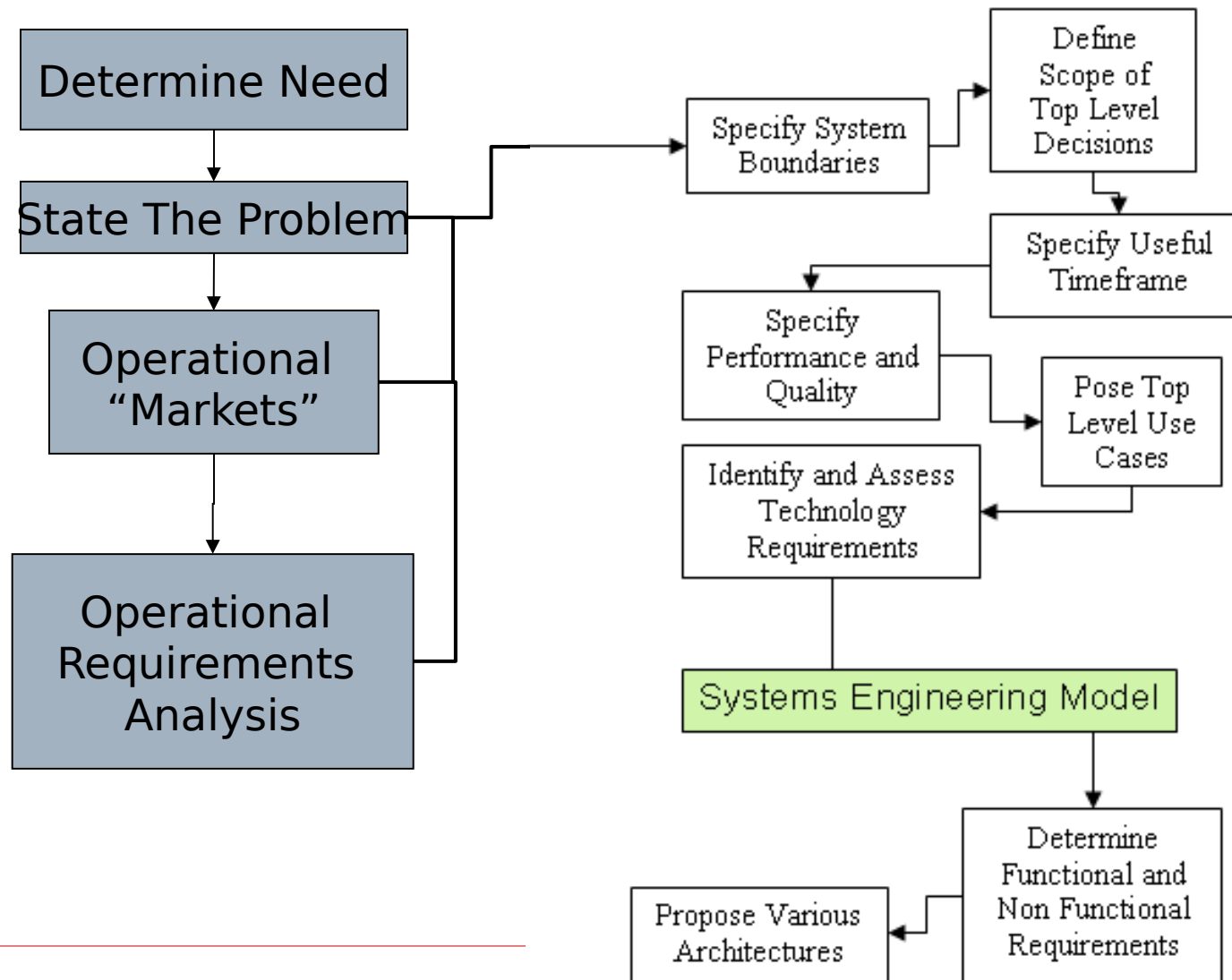
- Due Monday, 6 April by midnight pacific
  - Functional decomposition assignment
  - Discussion Forum
- Module 2 Project Planning
  - Project assignment

# Backup

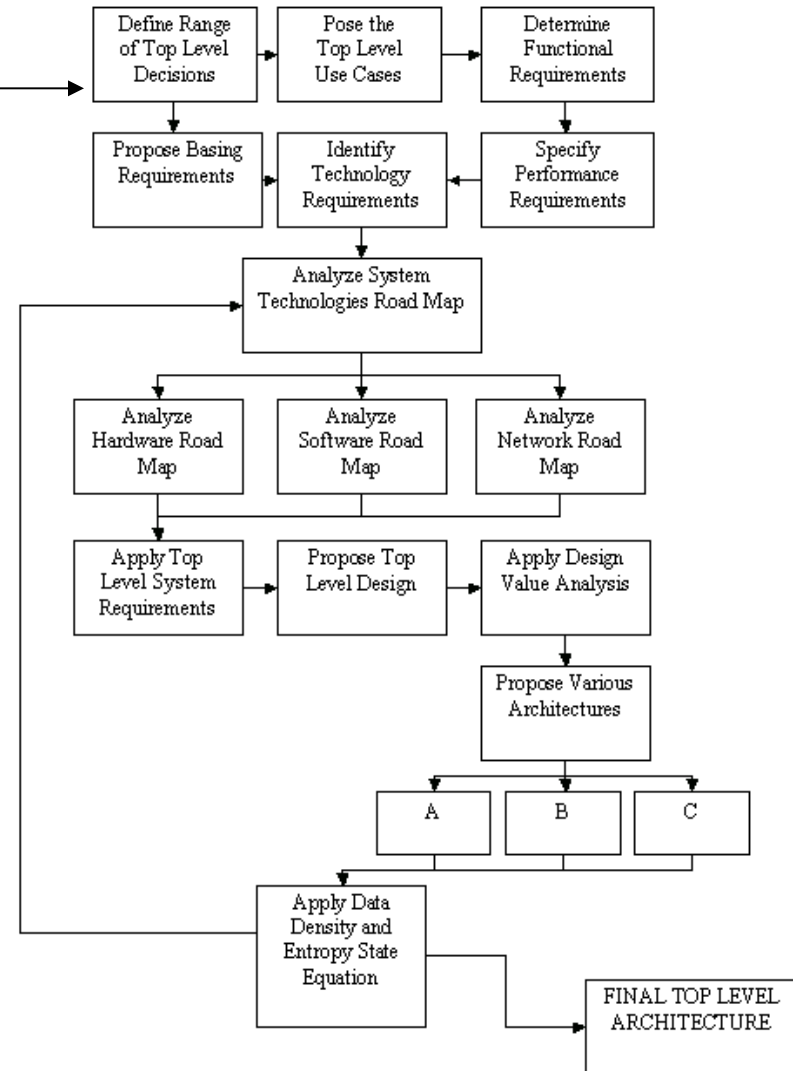
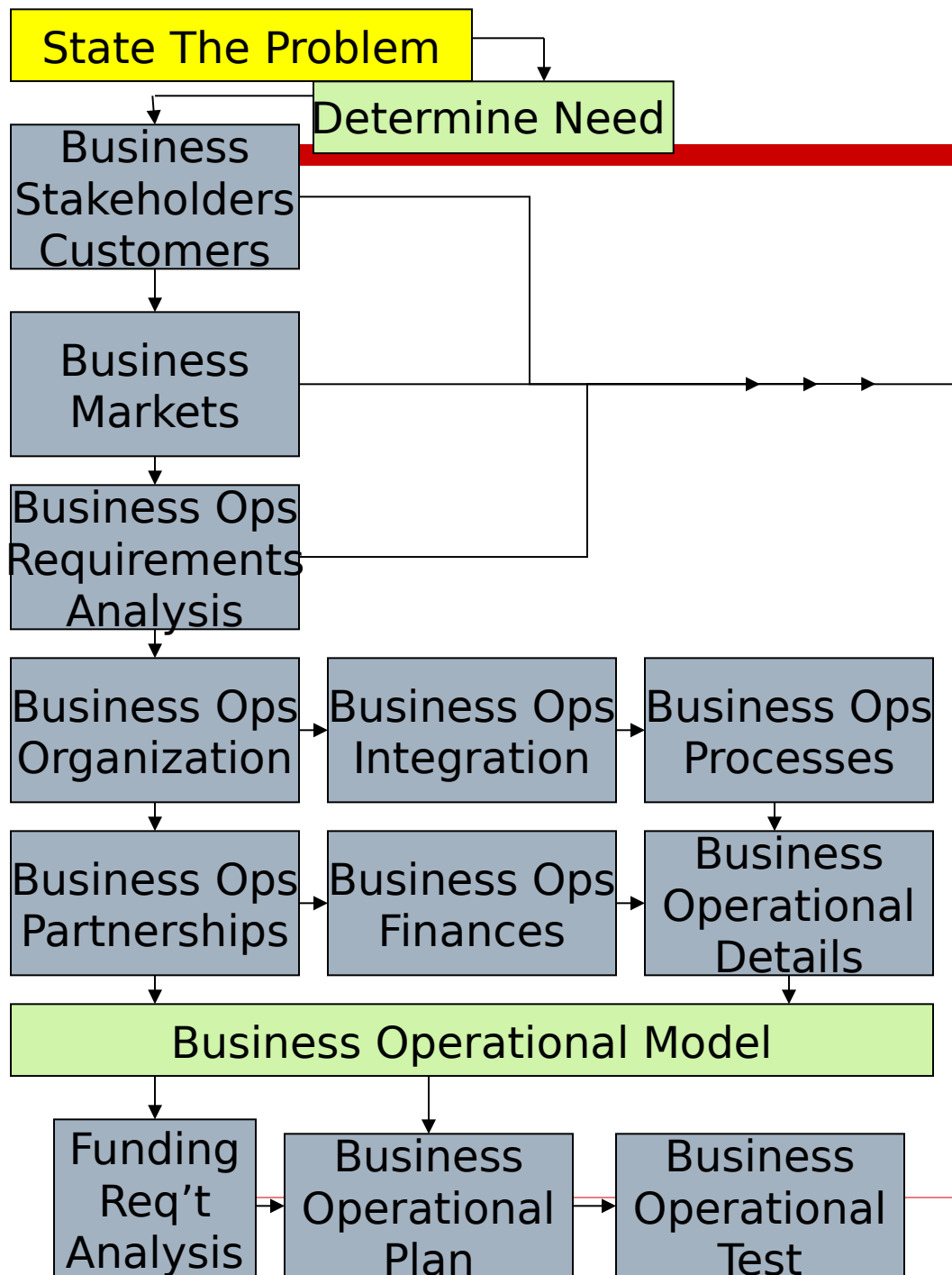
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# Systems Engineering and Management Scope

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# Systems Engineering and Management Process



# Projects Defined by Four T's

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- Task definition
- Time limits
- Team
- Transition

These four T's demark action . . .

# Personal Time Management Uses a Set of Tools

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## □ To

- Eliminate waste
- Be prepared for meetings
- Refuse excessive workloads
- Monitor project progress
- Allocate the resource time appropriate to a task's importance
- Ensure that long-term projects are not neglected
- Plan each day efficiently
- Plan each day effectively
- And to do simply with a little self-discipline



# Personal Time Management is a Management Process

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- ❑ It must be planned, monitored, and regularly reviewed
- ❑ In the following slides, we will examine the basic methods and functions of Personal Time Management. Since appreciation depends on experience and reflection, you will be asked to take part by looking at aspects of your own work. If you do not have time right now – ask yourself: Why Not?

# Personal Time Management – The Current Practice

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- ❑ We strongly advocate certain practices which will give you greater control over the use and allocation of your primary resource: time
- ❑ Consider the present time. This involves the simplistic task of keeping a note of how you spend your time for a suitably long period of time. All you have to do is create a simple table, photocopy 6 copies and carry it around with you filling in a row each time you change activity. After one-week, allocate time to review this log

# Waste Disposal

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- ❑ We are not looking here to create new categories of work to enhance efficiency, but simply to eliminate waste in your current practice. The average engineer earns about \$80,000 per year: about \$40/per paid hour, say about \$3.33 every five minutes
- ❑ For how many 5-minutes of your activity would you have paid \$3.33?
- ❑ This first step is a critical appraisal of how you spend you time and to question some of your habits
- ❑ In your time log, identify periods of time which might have been used better

# Various Sources of Waste

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There are various sources of waste. The most common are social: telephone calls, emails, friends dropping by, conversations around the coffee icons. It would be foolish to eliminate all non-work related activity, but if it's a choice between chatting and meeting the next pay-related deadline... Your log will show you IF this is an area to improve and you might like to do something about it before your boss does. If you are the Project Manager, then you would look for this waste and correct it

# Common Source of Waste

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- Another common source of waste comes from delaying work which is unpleasant by finding distractions which are less important or unproductive. Your time log will indicate these wastes
- You may want to initiate a routine which deals with these on a fixed, but regular basis. For example, do your personal email each day before coming to work

# Waste – Inappropriate Work

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- ❑ Doing your subordinate's work – often it is simpler to do the job yourself. Rubbish!
- ❑ Large gains can be made by assigning administrative tasks to support staff. They do these tasks regularly and they probably type much faster than you. If you have a task which could be done by a subordinate, use the next occasion to start their training. After training you will spend much less time monitoring than you will doing

# Doing the Work of Others

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- ❑ No-Way!
- ❑ A major impact on your work can be the tendency to help others with theirs. Check your work log and decide how much time you spend on your own work and how much you spend on others'
- ❑ Then, there is the remaining problem of your manager. Bummer! Making your manager more efficient is a very (VERY) difficult task, but where it impinges on you work and performance you must confront the issue

# How To Manage Your Manager

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- ❑ Managers may over- or under-manage you (continually checking on task status or not giving enough detail, direction, or feedback)
- ❑ If a task is ill defined – seek clarification
- ❑ If a manager is difficult, write a small specification for each task before beginning it and have it agreed.
- ❑ Keep your manager focused on the task.
- ❑ Be a role model for your manager.
- ❑ Remind your manager about past problems because a decision was not made in time.
- ❑ Focus on points where you need help.
- ❑ Be prepared with facts/data to facilitate discussion.
- ❑ Summarize your discussions in writing



# External Appointments

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- Take control of your time
  - Maintain a simple appointments diary. List all your known appointments for the foreseeable future. Add your regular ones. Appointments can be as simple as when you will return phone calls, when you leave for lunch, when you have scheduled a break,...
- Appointments are your interactions with others; they are the agreed interface between your activities and those of others; they are determined by external obligation. They often fill your diary
- Be ruthless and eliminate the unnecessary

## What is Your Most Important Type of Activity to Add

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- ❑ Add to your diary any personal activity that will enhance your use of the available time
- ❑ The single-most important type of activity is those that will save you time! Allocate time to save time
- ❑ For each appointment remaining in your diary, consider what actions you might take to ensure that no time is wasted: plan to avoid work by being prepared
- ❑ Deadlines are appointments !

# Deal With Impossible Deadlines

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- ❑ There are four ways to deal with impossible deadlines
  - Extend the deadline
  - Get more appropriate resources
  - Redefine the deliverable
  - State the position clearly and early
    - ❑ “I can’t do them all, which should I slip”
  - Move to an organization with realistic schedules
- ❑ Keep a record of your time estimates and the actual time taken by each task. This will be a source of valuable data and increase the accuracy of your planning predictions

# Set Personal Deadlines prior to Externally Set Deadlines

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- ❑ With just one extra day, the project deliverable would be complete. With one more day, all the documentation would be correct and in order. With one more day, the product demonstration would work
- ❑ Move your personal deadline forward and allow yourself the luxury of review, polishing, and leisured consideration
- ❑ For each activity you should estimate how much time it is worth and allocate only that amount. Allocate time for 'fitness for purpose', then stop

# Monitor Staff

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- ❑ Your Personal Time Management also affects other people, particularly your subordinates. Planning projects means more than just allocating your time. It means distributing tasks to others
- ❑ Delegated tasks should be specified with an (agreed) end date. As the Manager, you are responsible for ensuring that tasks allocated to your subordinates are completed successfully. Each task should have a deliverable. And each deliverable should have an entry in your daily time log and a time entry to check the deliverable

# Team –Who is Holding the Rope?

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- Imagine hanging off the side of a cliff hovering over a precipitous drop. The only thing between you and death is a rope with a person of your choosing at the other end. Who do you know that has the guts and the skill to pull you to safety? Who holds the rope?
- Naming a few people is not enough. Look at your team. Who would trust you to hold the rope for them?

- **Common Goal**
- **Acknowledged Interdependency**
  - **competency, respect, trust**
- **Acceptance of common code of conduct**
- **A shared reward**

# Team -Everyone Should Be Able and Willing to Hold the Rope

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- ❑ If you can say that every member on your team would hold the rope, including yourself, then you are on a team that can succeed in what it is supposed to do
- ❑ When it gets tough, hold the rope
- ❑ Teammates do not just show up and do their thing. They work diligently, they hustle, they look for opportunities to help others, they know that the team relies on their individual effort as well as their supporting effort

# Team –Everyone Should Be Diligent, Tenacious, & Honorable

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- ❑ Would you rather have a group of gifted and talented people working on a project, or a well-honed team?
- ❑ Expand on that question, with the following: every successful company has at least one inspired ‘genius’ who is the keeper of the vision, the driver of insight. Every successful company has a team that rallies and concentrates on making that vision a reality.
- ❑ Managers build teams !



# Teams Must Deal With Two Problems – Task and Process

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- ❑ When people work in groups there are two quite separate issues:
  - Task and issues with getting the job done. Often, this is the only thing which the group considers.
  - Process of group's work – the mechanism by which the group acts as a team
- ❑ What is a Team? A Team combines talent and works to provide a solution to a problem
- ❑ Team-based work force has advantages over individual efforts
  - Fuller use of workforce
  - Continuity of effort when members absent

# Teams Can Be Thought of as Self-Managing Units

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- Range of member's skills and a member's self-monitoring propensity makes it reasonably safe to delegate responsibility and authority
- Even if a decision could be reached by an individual, there are benefits of involving the people who will carry out the decision
  - Motivational aspect of participating in the decision
  - Implementation may involve other factors which the implementer understands
  - As more members participate in group decision making, each will be better able to solve problems
  - Participants become safe recipient of delegation

# Developing Team Skills Takes Effort and Time

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- ❑ There are two main sets of skills which a team must acquire to be effective and efficient
  - Managerial skills and Interpersonal skills
- ❑ As a self-managing unit, a team has to be able to undertake functions of a Project Manager.
  - Meetings must be organized, budgets decided, planning undertaken, goals set, performance monitored, reviews schedule, ...

SE Managers are the glue that keeps it all together  
SE Leadership requires the ability to inspire and motivate

# Managers Are Not Born, They Are Made

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- ❑ It is folly to expect an individual to suddenly assume managerial responsibility without assistance
- ❑ Even if there are practiced project managers on the team, they must first agree on a model for their thought, a method for their delivery, and then they must convince and train the others on the team
- ❑ As a group of people, a team needs to relearn some basic manners and people-management skills

# Accelerating Team Development is Essential To Project Success

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- ❑ It is common to appoint a team facilitator (often referred to as the Project Manager). Their role is to continually remind the team about the team process and to suggest structures and practices to support and enhance the team skills. This must be only a short-term training strategy, since the team must assume collective responsibility for the team process
- ❑ The aim of the team is that the facilitation of team development is performed by every member equally and constantly

# There Are Two Foci – Task and Team

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- ❑ If something is to be decided, it is the team that decides it. If there is a problem, the team solves it. If a member is performing badly, it is the team who asks for change
- ❑ If individual conflicts arise, the Project Manager reviews them in terms of the Task. If there is initially a lack of structure and purpose in the deliberations, the Project Manager imposes both in terms of the Task. If there are disputes between alternative courses of action, the Program Manager negotiates in terms of Task

# Clarification – Measure of How Well Team Works Towards Same Goal

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- In any project management, the clarity of the specification (or the communication) is of paramount importance – in a team it is exponentially so. Suppose there is an 80% chance of an individual understanding the task correctly. If there are 8 members in Team, then the chance of the group all working towards that same task is 17%. And the same reasoning holds for every decision and action taken throughout the life of the Team

# Unhide The Mouse, Muzzle the Loud-Mouth

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- There is always the quiet one in the corner who says very little. That individual is the most underutilized Team resource. So they represent the best return for minimal effort by Team to speak out and contribute. It is Team responsibility to encourage and develop that person, to include them in discussion and actions, and to provide positive reinforcement
- Easy to locate the loud-mouth, whose opinions form a disproportionate share of discussion. Are you that person? Team responsibility to ask whether loud-mouth might like to summarize briefly, and then ask for other view



# Formal and Informal Procedures

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- ❑ Often unrecorded decisions become clouded and have to be re-discussed. Avoid the waste of efforts and record on a large display and post conspicuously each decision as it is made
- ❑ Clarity and simplicity are enforced
- ❑ Criticism must be neutral and focused on Task not on personality. Every criticism must be accompanied by a positive suggestion for improvement
- ❑ Give feedback frequently, especially for small things
- ❑ Praise things done well. Progress on Task should be emphasized

# Handling Failure

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- ❑ The long-term success of Team depends on how it deals with failure. It is foolish to brush off failure and just get on with your work. Failure should be explored by Team. This is not to assign blame, but rather to examine causes and to devise a mechanism which either monitors against or prevents repetition
- ❑ A mistake is something that happens twice
- ❑ Project Manager delegates the agreed solution to the individual or sub-Team who made original error. This allows Team to demonstrate continuing trust and penitent to make amends

# Handling Deadlock

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- When two opposing views are held in Team, some action must be taken
  - Each sub-Team could debate from the other sub-Team's view (in order to better understand it)
  - Common ground could be emphasized by the Project Manager, and the differences viewed for a possible middle or alternative strategy
  - Each could be debated in context of the original Task – but Team must decide (upfront) how much time the debate actually merits and then guillotine it after that time
  - If the issue is not critical , toss a coin
- Most Management Decisions are 40% correct !

# Avoid Single Solutions, and Lousy Communications

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- ❑ First ideas are generally not the best. For any given problem, Team should generate alternatives, evaluate these in terms of Task, pick one and implement it. Importantly, monitor outcomes, schedule reviews and change the plan
- ❑ Communication is responsibility of both speaker and the listener. Clarity and conciseness are achievable if listener actively seeks to understand & questions for clarity. Listeners fail to get points because they're not listening for them. Objective of communication is reception
- ❑ Document communication and decisions and post

# Teams Are Like Relationships

## You Must Work At Them

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- ❑ In the work place, Team constitute an important unit of activity but one whose support needs are only recently becoming understood.
- ❑ By making Team itself responsible for its own support, the responsibility becomes an accelerator for the Team process.
- ❑ What is vital, is these needs are recognized and explicitly dealt with by Team.
- ❑ Time and resources must be allocated to this by Team and by Management, and the Team process must be planned, monitored and reviewed just like any other managed process

# Key Issues of Engineering Project Management

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- ☐ Project Definition
- ☐ Modeling (6-20% of total project costs)
- ☐ Project Strategy
- ☐ Regulatory Approvals
- ☐ Finance
- ☐ Design
- ☐ Technology
- ☐ Configuration Management
- ☐ Integrated Logistics Support and Operations
- ☐ Procurement
- ☐ Risk Management
- ☐ Contracting
- ☐ Start-up, Implementation, and Handoff

# Managers are Essential

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- ☐ Is your supervisor doing everything right as a manager?
- ☐ Have you ever wanted to tell your boss how to manage?
- ☐ Do you know the difference between a good manager and a bad manager?
- ☐ Do you know what constitutes good management or bad management?
- ☐ Have you ever wanted to manage a project?